

To Service Personnel

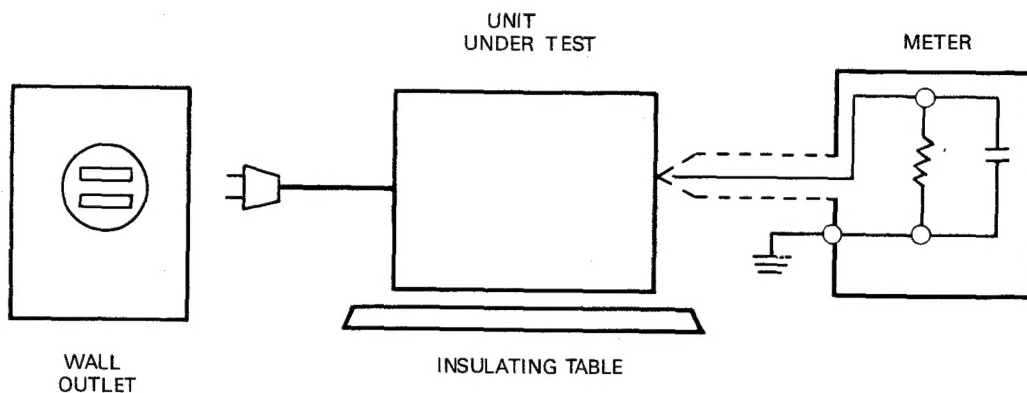
1. Critical Components Information.

The \triangle marked components on schematic diagram and parts list be replaced with the parts having specifications equal to these originally installed.

2. Leakage Current Measurement (For 120V Version only).


When the service has been completed, make sure that all exposed conductive surfaces are properly insulated from the power supply circuits.


- Leakage current meter should have an input impedance of 1500 ohms resistive shunted by $0.15\mu\text{F}$ capacitor.
- Leakage current shall not be exceed 0.5mA.



3. Turn the unit OFF, and disconnect the power supply cord during disassembly and replacement of parts.

4. When the service has been completed, be sure to check all protective device and spacings before returning the unit to customer.

5.  This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" with in the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock hazard to persons.

6.  This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

7. Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Specifications

Description	Nominal
Track Configuration 4-Track, 2-Channel and Stereo recording playback tape head	
Motor Electronic governor controlled DC motor	
Mechanism Double deck mechanism 2-Head	
Heads REC/Playback Head: Hard Permalloy Erase Head: Double Gap Ferrite Core (886-01-07)	
Tape Speed 1 and 7/8ips (4.76 cm/sec), at 3kHz -4 dB (A. BEX), FWD/REV	3 kHz \pm 30Hz
WOW and Flutter (W. RMS) (JIS 3kHz), (DIN 3.15kHz)	No more than 0.2%
Fast Winding Time, C-60	About 120 sec
Input Sensitivity/Impedance Line	70mV/47kohms
Output Level/Load Impedance Line	500mV/1.2kohms
Signal to Noise Ratio (W. CCIR/ARM) CrO ₂ tape with Dolby B NR CrO ₂ tape without Dolby B NR	More than 64 dB More than 56 dB
Frequency Response at -20 dB REC, Dolby NR Off Normal Tape CrO ₂ Tape Metal Tape	25Hz - 14.5kHz, \pm 3 dB 30Hz - 15.0kHz, \pm 3 dB 30Hz - 15.5kHz, \pm 3 dB
Total Harmonic Distortion at 1kHz, 0dB REC CrO ₂	No more than 2%
Channel Separation at 1kHz	More than 37 dB
Power Consumption	12 Watts
Dimensions (W)440 \times (H)118 \times (D)225 mm (W)17.3 \times (H)4.6 \times (D)8.8 inch	
Weight 3.5kg (7.8lbs)	
Power Requirement A: USA & CANADIAN Version B: Multi-Voltage Version C: General EUROPEAN Version D: West GERMAN & ITALIAN Version E: BRITISH & AUSTRALIAN Version F: SWISS & SCANDINABIAN Version	120VAC/60Hz 120/220VAC, 60/50Hz 220VAC/50Hz 220VAC/50Hz 240VAC/50Hz 220VAC/50Hz

Note: Specifications and design subject to change without notice for improvements

Electrical Adjustment Procedure

1. Before Measurements and Adjustments

General Conditions

- The following general conditions apply to the electrical measurements and adjustments unless especially stated otherwise.
- Before making adjustment, operate the appliance for more than 2 minutes.
- Ambient temperature 20 to 25 °C
- Dolby NR Switch off.
- The voltages have been measured relative to earth.
- Volume control recording level VR501 max.
- The measurements and adjustments are relate to the left-hand channel.
- The corresponding test points and adjusting elements for the right-hand channel are given in brackets.
- Since head magnetization, dust accumulation, etc. are likely to introduce in the various characteristics, it is very important that the heads are properly demagnetized and cleaned.
- Use 500mV for 0 dB as the standard level of the unit. (Line out)

- Proceed with the recording system adjustment after having finished the playback section adjustment.

2. Instruments required

- Audio frequency oscillator
- Frequency counter
- Oscilloscope
- ACVM or dual channel (ACVM, mV-meter)
- WOW/FLUTTER meter
- Oscilloscope

3. Test Cassette

- TCC-153 ____ Azimuth
- TCC-122 ____ Tape Speed, -10 dB
- TCC-130 ____ Playback Level (Dolby NR ref. tape)
- TCC-184 ____ Playback Frequency Response
- Reference Tape
 - Normal ____ TDK AD-60
 - CrO₂ ____ TDK SA-60
 - Metal ____ TDK MAX-60

Playback Section

Adjustment	Test Tape	Mode	Apply Signal to	Measure on	Read on	Adjust with	Adjust to
Head Azimuth	TCC-153 10kHz (A. BEX)	Play		Line out	ACmV-meter Oscilloscope	Head adjusting screw (Left side)	Maximum ^{*a} • Lissajous figure become a straight line with an angle 45 degree
Head Azimuth	TCC-112 3kHz, -10dB (A. BEX)	Play		Line out	Wow and Flutter Meter & Frequency counter	VR403	3,000Hz ± 30Hz ^{*b}
Playback Level	TCC-130 400Hz, 0 dB (A. BEX)	Play		Line out	ACmV-meter Oscilloscope	VR101L/R VR102L/R	500mV
Playback Frequency Response	TCC-184B 12.5k/1k/63 (A. BEX)	Play		Line out	ACmV-meter Oscilloscope		See graph fig. 2 Frequency Response

Recording Section

Adjustment	Test Tape	Mode	Apply Signal to	Measure on	Read on	Adjust with	Adjust to
Bias Osc Frequency	MAX-60 (TDK)	REC/ PAUSE		White Color lead wire of CNT501	Frequency Counter	L502	105kHz
105kHz trap Suppression	MAX-60 (TDK)			TP5L/R	ACmV-meter Oscilloscope	L501L/R	Minimum
Target Value BIAS	Metal MAX-60			TP1L/R		VR501L/R	90mV
	CrO ₂					VR402	58mV
	Normal					VR401	44mV
Recording Level	AD-60		400Hz to Line	Line out		VR301L/R	About 7mV *c
Bias	MAX-60 SA-60 AD-60 (TDK)	REC/ PAUSE	400Hz to Line	Line out	ACmV-meter	See Target Value Bias	See fig. 3 if it necessary repeat bias adjustment *d
			4kHz-6.3kHz 10kHz-12kHz 14kHz-16kHz to Line in		Recording number of Frequency with the same input voltage and play them back.		
Level Meter	Arbitrary Tape	REC/ PAUSE	400Hz to Line in	Dolby level point	ACmV-meter Oscilloscope	VR501	
19kHz suppression		REC/ PAUSE		Line input	ACmV-meter	LF Generator	70mV
			19kHz to Line in	Line output	ACmV-meter Oscilloscope	L201L/R	Minimum

NOTE:

- *a. Prior to any measurement or adjustment with the tape running, heads and tape guides should be degaussed and cleaned. Reference below the figure.
- *b. The maximum permissible speed variation $\pm 0.5\%$. Moreover the Wow and Flutter can be read. This value should not exceed 0.2%.
- *c. The voltage on Line out should read $500\text{mV} \pm 20\text{mV}$. If this is not the case reduce the LF signal (bias disabled) by as many dB's as the reading was too low or too high by means of VR301L/R.
- *d. When the channel is adjusted, this may slightly affect the adjustment of the other channel. If the adjustment is correct, the frequency response curve will be similar to curve b in figure 4, distortion below 3%.

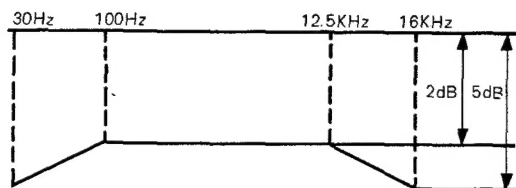
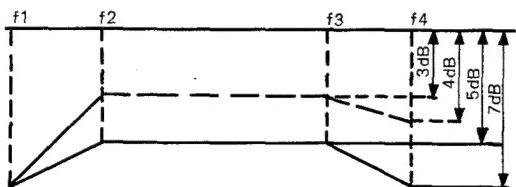


Fig. 2



	f1	f2	f3	f4
Metal	30Hz	100Hz	12.5kHz	15.5kHz
CrO ₂	30Hz	100Hz	12.5kHz	15.0kHz
Normal	30Hz	100Hz	12.5kHz	14.5kHz

Fig. 3

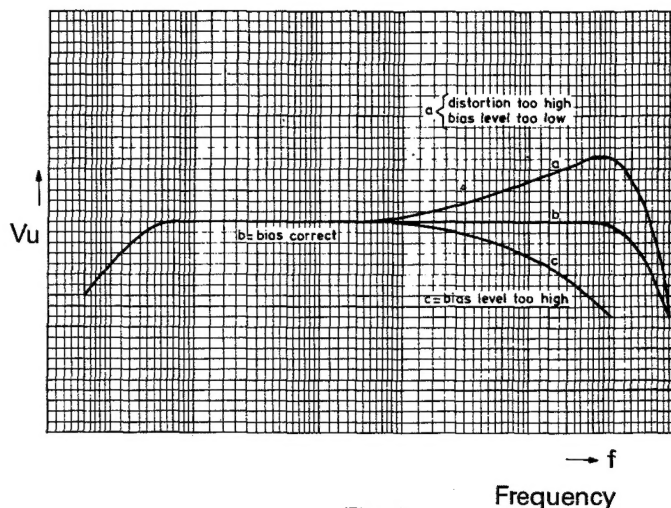
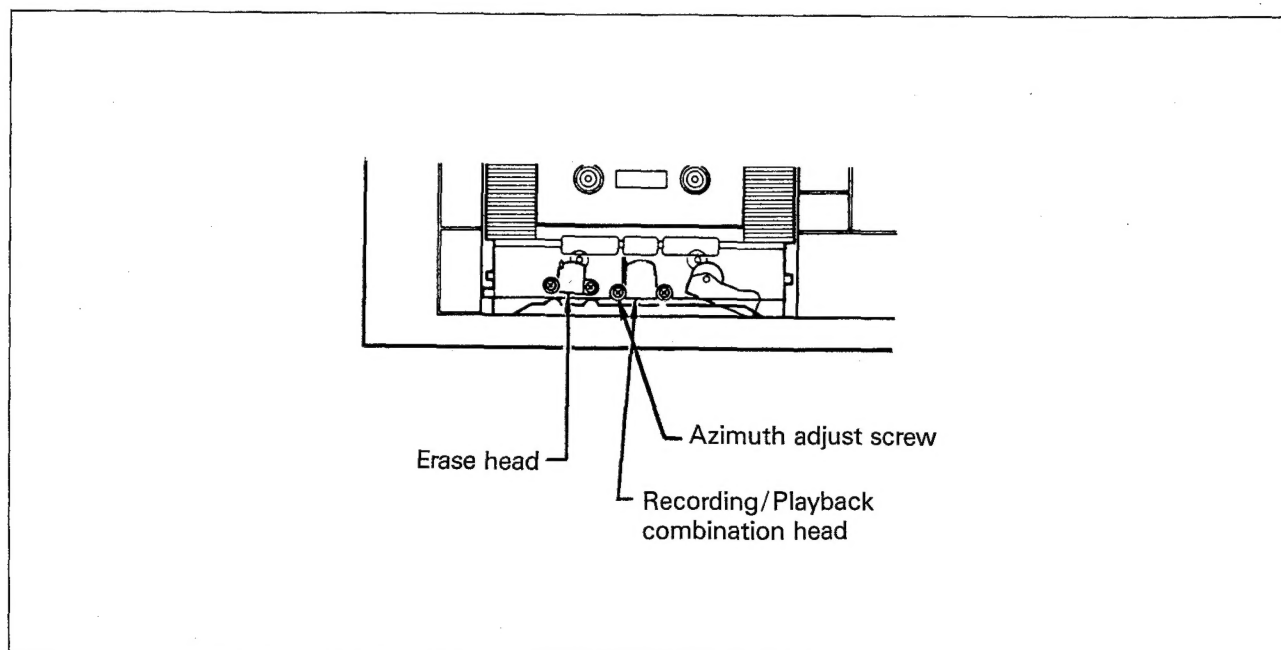
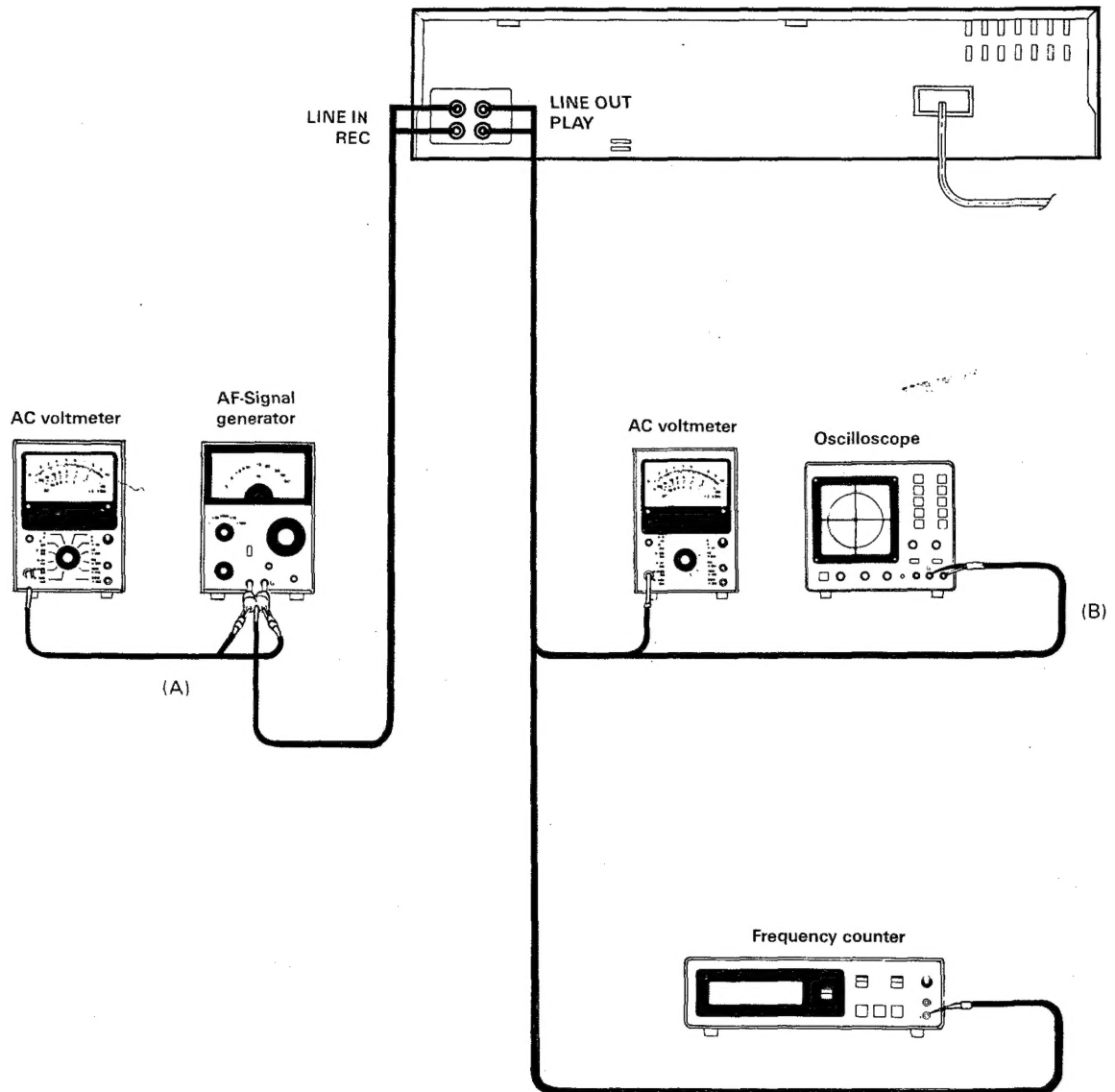


Fig. 4

Azimuth Adjustment Point

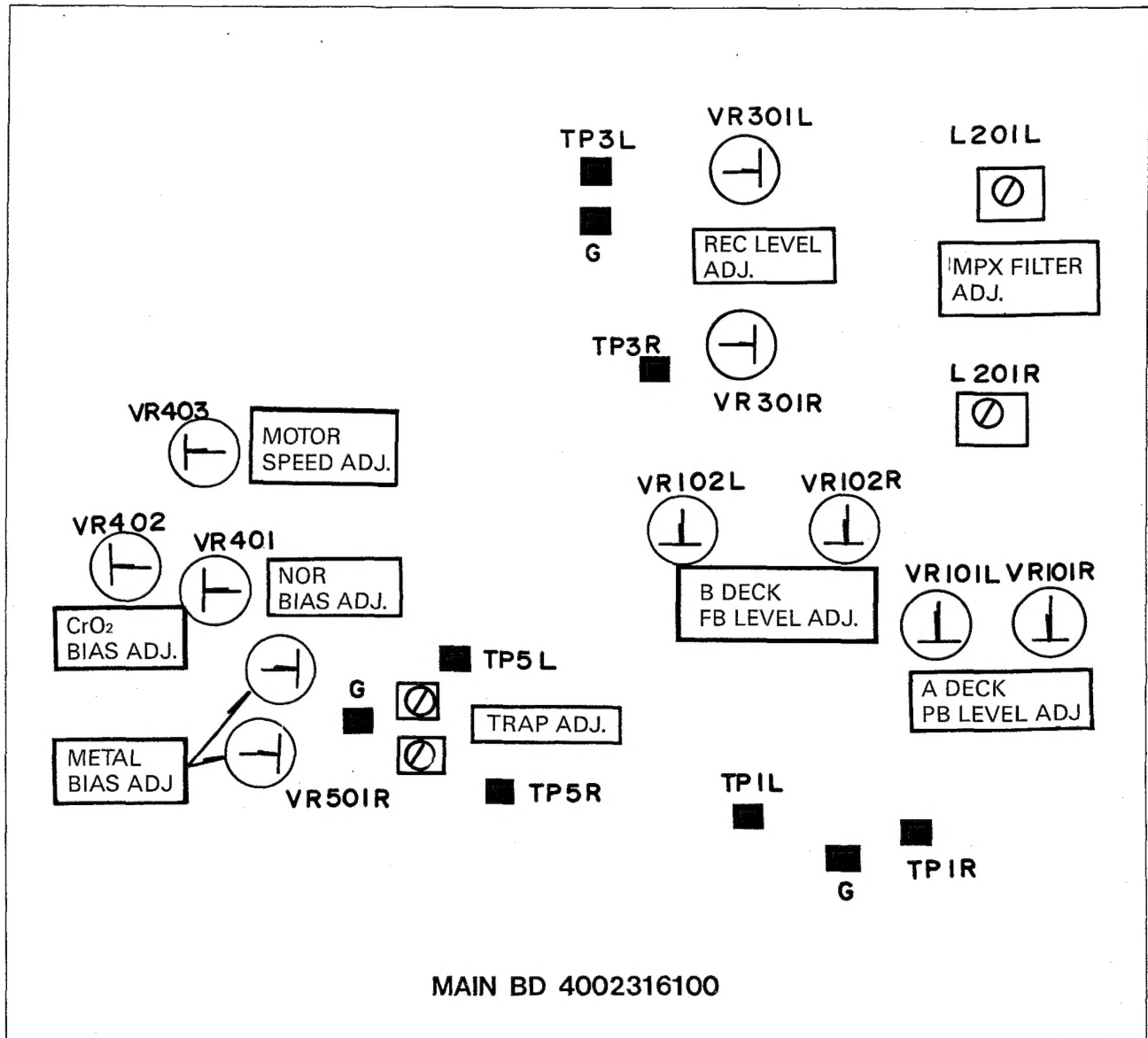


Test Equipment Connections



NOTE: Connect two AC voltmeters to output terminal of the tape deck when adjusting the recording head azimuth.

Adjustments Point



Electrical Parts List

Ref. No	Part No.	Description	Position	Remark
MAIN BOARD 4002316100				
• Capacitors				
C102L/R	3579331130	Ceramic 330PF 50V J	E4/E4	
C103L/R	3579471130	Ceramic 470PF 50V J	E4/E4	
C104L/R	3479210971	Electric SA 1 μ F 50V M	E4/E4	
C105L/R	3479221130	Ceramic 220PF 50V J	E4/E4	
C106	3479247031	Electric SA 47 μ F 16V M	E4/E4	
C107L/R	3679822120	Mylar 0.882 μ F 100V J	E4/E4	
C108L/R	3479233031	Electric SA 33 μ F 16V M	E3/E3	
C109L/R	3479247971	Electric SA 4.7 μ F 50V M	E3/E3	
C110L/R	3479158120	Mylar 0.015 μ F 100V J	E3/E3	
C111	3479210061	Electric SA 10 μ F 35V M	E2	
C112L/R	3579821230	Ceramic 820PF 50V J	D3/D4	
C113L/R	3479210971	Electric SA 1 μ F 50V M	D3/D3	
C114L/R	3579221130	Ceramic 220PF 50V J	D3/D3	
C115	3479247031	Electric SA 47 μ F 16V M	D3/D3	
C116	3479233031	Electric SA 33 μ F 16V M	D3/D3	
C117	3479247031	Electric SA 47 μ F 16V M	D3/D3	
C118L/R	3679822120	Mylar 0.008 μ F 100V J	D3/D3	
C119L/R	3479233031	Electric SA 33 μ F 16V M	D3/D3	
C120L/R	3479247971	Electric SA 4.7 μ F 50V M	D3/D3	
C121L/R	3579158120	Mylar 0.015 μ F 100V J	D3/D3	
C122	3479247031	Electric SA 47 μ F 16V M	D2	
C201L/R	3479247971	Electric SA 4.7 μ F 50V M	E1/E2	
C202L/R	3479247971	Electric SA 4.7 μ F 50V M	E1/E2	
C203L/R	3679393120	Mylar 0.039 μ F 100V J	E1/E2	
C204L/R	3479233031	Electric SA 33 μ F 16V M	E1/E2	
C205L/R	3479247971	Electric SA 4.7 μ F 50V M	E1/E2	
C206L/R	3579561130	Ceramic 560PF 50V J	E1/E2	
C207L/R	3479247971	Electric SA 4.7 μ F 50V M	E1/E2	
C208	3479222041	Electric SA 22 μ F 50V M	E2	
C209L/R	3479222871	Electric SA 0.22 μ F 50V M	D1/D2	
C210L/R	3479247971	Electric SA 4.7 μ F 50V M	D1/D2	
C211L/R	3479247971	Electric SA 4.7 μ F 50V M	D1/D1	
C212	3479210061	Electric SA 10 μ F 35V M	E1	
C213	3479233031	Electric SA 33 μ F 16V M	E1	
C214	3479233031	Electric SA 33 μ F 16V M	E1	
C301L/R	3679393120	Mylar 0.039 μ F 100V J	D1/D2	
C302L/R	3679682120	Mylar 0.0068 μ F 100V J	D1/D2	
C303L/R	3479210971	Mylar 1 μ F 100V J	D1/D2	
C304L/R	3479247871	Mylar 0.47 μ F 100V J	C1/C1	
C305L/R	3479247871	Mylar 0.47 μ F 100V J	C1/C1	
C306L/R	3479210061	Electric SA 10 μ F 35V M	C1/C2	
C307L/R	3479233031	Electric SA 33 μ F 16V M	C1/C2	
C308L/R	3679223120	Mylar 0.022 μ F 100V J	C1/C2	
C309L/R	3679233120	Mylar 0.022 μ F 100V J	C1/C2	
C310	3409210131	Electric SA 100 μ F 16V M	C2	
C311	3479210061	Electric SA 10 μ F 35V M	B1	
C312		Not used !		
C313	3479210061	Electric SA 10 μ F 35V M	C2	
C401	3479210061	Electric SA 10 μ F 35V M	C3	
C402	3479210061	Electric SA 10 μ F 35V M	B3	
C403	3479210061	Electric SA 10 μ F 35V M	A3	
C404	3479210061	Electric SA 10 μ F 35V M	A3	
C405	3479210061	Electric SA 10 μ F 35V M	B3	
C406	3409210131	Electric SA 100 μ F 16V M	B3	
C407	3579104534	Ceramic 0.1 μ F 50V J	B1	
C408	3409247169	Electric SA 470 μ F 35V M	A2	
C409	3409247149	Electric SA 470 μ F 25V M	A2	
C410	3479210061	Electric SA 10 μ F 35V M	A2	
C411	3579104534	Ceramic 0.1 μ F 50V J	A1	
C501L/R	3479247971	Electric SA 4.7 μ F 50V M	B3/B4	
C502L/R	3579221130	Ceramic 220PF 50V J	A3/A4	

Ref. No	Part No.	Description	Position	Remark
C503	3679562120	Mylar 0.0056 μ F 100V J	A4	
C504	3679103120	Mylar 0.01 μ F 100V J	A4	
C505	3679562120	Mylar 0.0056 μ F 100V J	A4	
C506	3679103120	Mylar 0.01 μ F 100V J	A4	
C507	3479247971	Electric SA 4.7 μ F 50V M	A3	
C508	3609272130	Electric SA 0.47 μ F 50V M	A3	
• Coils				
L201L/R	2658301140	MPX Filter	E1/E2	
L301L/R	2648601310	4.5mH	C1/C2	
L501L	2658501080	105kHz, Record Trap	B3	
L501R	2658501080	65kHz, Record Trap	B4	
L502	2638601150	105kHz, Bias OSC	A3	
• Connectors				
CNT101	4428505610	Plug 4P	E4	
CNT102L/R	4428517610	Plug 2P	D4	
CNT201	4428522510	Wire Trap 5P	E1	
CNT401	4428517910	Plug 6P	B3	
CNT402	4428518310	Plug 10P	A2	
CNT403	4428517710	Plug 4P	A1	
CNT404	4428522510	Wire Trap 5P	D1	
CNT405		Not used !		
CNT501	4428517510	Plug 2P	A3	
• Diodes				
D401/D301	2058306101	1N 4148, Switching	C3/B1	
D402	2058306101	1N 4148, Switching	C3	
D403	2058306101	1N 4148, Switching	C3	
D404	2058599100	DZ3.3BM, Zener	C2	
D405	2058306101	1N 4148, Switching	C3	
D406	2058100600	1N 4002, Rectifier	A2	
D407	2058100600	1N 4002, Rectifier	A2	
D408	2058100600	1N 4002, Rectifier	A1	
D409	2058100600	1N 4002, Rectifier	A1	
D410	2058100600	1N 4002, Rectifier	A1	
D411	2058599100	DZ3.3BM, Zener	B2	
• ICs				
IC101	2168006104	KIA8125S, Dual OP Amp	E4	
IC102	2168006104	KIA8125S, Dual OP Amp	D3	
IC201	2168011133	HA12316, Dolby IC	E2	
IC301	2168020101	NJM4560S, Dual OP Amp	B1	
IC401	2168601105	GD7815, Regulator IC	A1	
• Resistors				
R102L/R	3069104970	Carbon Film 100k 1/5W J	E4	
R103L/R	3069104970	Carbon Film 100k 1/5W J	E4	
R104L/R	3069394970	Carbon Film 390k 1/5W J	E3	
R105L/R	3069183970	Carbon Film 18k 1/5W J	E3	
R106L/R	3069121970	Carbon Film 120 1/5W J	E3	
R107	3069561970	Carbon Film 560 1/5W J	E3	
R108L/R	3069332970	Carbon Film 3.3k 1/5W J	E3	
R109L/R	3069472970	Carbon Film 4.7k 1/5W J	E3	
R110L/R	3069104970	Carbon Film 100k 1/5W J	E3	
R111L/R	3069333970	Carbon Film 33k 1/5W J	E3	
R112L/R	3069333970	Carbon Film 33k 1/5W J	E3	
R113	3069472970	Carbon Film 4.7k 1/5W J	E3	
R114L/R	3069332970	Carbon Film 3.3k 1/5W J	E2	
R115L/R	3069472970	Carbon Film 4.7k 1/5W J	D4	
R116L/R	3069101970	Carbon Film 100 1/5W J	D4	
R117L/R	3069102970	Carbon Film 1k 1/5W J	D4	
R118L/R	3069104970	Carbon Film 100k 1/5W J	C4	
R119	3069472970	Carbon Film 4.7k 1/5W J	D3	

Ref. No	Part No.	Description	Position	Remark
R120L/R	3069394970	Carbon Film 390k 1/5W J	D3	
R121L/R	3069183970	Carbon Film 18k 1/5W J	D3	
R122L/R	3069121970	Carbon Film 120 1/5W J	D3	
R123	3069561970	Carbon Film 560 1/5W J	D3	
R124L/R	3069332970	Carbon Film 3.3k 1/5W J	D3	
R125L/R	3069472970	Carbon Film 4.7k 1/5W J	D3	
R126L/R	3069104970	Carbon Film 100k 1/5W J	D3	
R127L/R	3069103970	Carbon Film 10k 1/5W J	D2	
R128	3069472970	Carbon Film 4.7k 1/5W J	D2	
R201L/R	3069242970	Carbon Film 2.4k 1/5W J	E1/E2	
R202L/R	3069104970	Carbon Film 100k 1/5W J	E1/E2	
R203L/R	3069104970	Carbon Film 100k 1/5W J	E1/E2	
R204L/R	3069102970	Carbon Film 1k 1/5W J	E1/E2	
R205L/R	3069472970	Carbon Film 4.7k 1/5W J	E1/E2	
R206	3069473970	Carbon Film 47k 1/5W J	D2	
R207	3069562970	Carbon Film 5.6k 1/5W J	E2	
R208	3069223970	Carbon Film 22k 1/5W J	E2	
R209	3069183970	Carbon Film 18k 1/5W J	E2	
R210L/R	3069562970	Carbon Film 5.6k 1/5W J	E1	
R211L/R	3069473970	Carbon Film 47k 1/5W J	E1/E2	
R212	3069223970	Carbon Film 22k 1/5W J	E1	
R213	3069223970	Carbon Film 22k 1/5W J	E1	
R214	.	Not used !	.	
R215	3069561970	Carbon Film 560 1/5W J	E1	
R216L/R	3069202970	Carbon Film 2k 1/5W J	D1	
R217L/R	3069103970	Carbon Film 10k 1/5W J	D1	
R218L/R	3069183970	Carbon Film 18k 1/5W J	E1	
R301	3069103970	Carbon Film 10k 1/5W J	D2	
R302L/R	3069103970	Carbon Film 10k 1/5W J	D1/D2	
R303L/R	3069332970	Carbon Film 3.3k 1/5W J	D1/D2	
R304L/R	3069332970	Carbon Film 3.3k 1/5W J	D1/D2	
R305L/R	3069182970	Carbon Film 1.8k 1/5W J	D1	
R306	3069682970	Carbon Film 6.8k 1/5W J	C1	
R307L/R	3069123970	Carbon Film 12k 1/5W J	C1/C2	
R308L/R	3069104970	Carbon Film 100k 1/5W J	C1/C2	
R309L/R	3069392970	Carbon Film 3.9k 1/5W J	C1/C2	
R310L/R	3069151970	Carbon Film 150 1/5W J	C1/C2	
R311L/R	3069151970	Carbon Film 150 1/5W J	C1/C2	
R312L/R	3069822970	Carbon Film 8.2k 1/5W J	C1/D2	
R313L/R	3069104970	Carbon Film 100k 1/5W J	C1/D2	
R314L/R	3069562970	Carbon Film 5.6k 1/5W J	C1/D2	
R315L/R	3069472970	Carbon Film 4.7k 1/5W J	C1/C2	
R316	3069103970	Carbon Film 10k 1/5W J	C2	
R317	3069103970	Carbon Film 10k 1/5W J	C2	
R318	3069561970	Carbon Film 560 1/5W J	B2	
R319	.	Not used!	.	
R320L/R	3069104970	Carbon Film 100k 1/5W J	C1/C2	
R321	3069472970	Carbon Film 4.7k 1/5W J	D2	
R401	3069103970	Carbon Film 10k 1/5W J	C3	
R402	3069103970	Carbon Film 10k 1/5W J	C3	
R403	3069223970	Carbon Film 22k 1/5W J	C3	
R404	3069223970	Carbon Film 22k 1/5W J	C3	
R405	3069223970	Carbon Film 22k 1/5W J	C3	
R406	3069101970	Carbon Film 100 1/5W J	C3	
R407	3069472970	Carbon Film 4.7k 1/5W J	C2	
R408	3069473970	Carbon Film 47k 1/5W J	C3	
R409	3069103970	Carbon Film 10k 1/5W J	C3	
R410	3069101970	Carbon Film 100 1/5W J	C3	
R411	3069472970	Carbon Film 4.7k 1/5W J	B3	
R412	.	Not used !	.	
R413	3069222970	Carbon Film 2.2k 1/5W J	B3	
R414	3069472970	Carbon Film 4.7k 1/5W J	A3	

Ref. No	Part No.	Description	Position	Remark
R415	3069202970	Carbon Film 2k 1/5W J	A3	
R416	3069472970	Carbon Film 4.7k 1/5W J	B3	
R417	3069222970	Carbon Film 2.2k 1/5W J	B3	
R418	3069472970	Carbon Film 4.7k 1/5W J	B3	
R419	3069103970	Carbon Film 10k 1/5W J	B2	
R420	3069242970	Carbon Film 2.4k 1/5W J	A3	
R421	3069471970	Carbon Film 470 1/5W J	A2	
R422	3069223970	Carbon Film 22k 1/5W J	B2	
R423	3069102970	Carbon Film 10k 1/5W J	B2	
R424	3069332970	Carbon Film 3.3k 1/5W J	B2	
R425	3069102970	Carbon Film 10k 1/5W J	B2	
R426	3069104970	Carbon Film 100k 1/5W J	B2	
R427	3069472970	Carbon Film 4.7k 1/5W J	B1	
R428	3069472970	Carbon Film 4.7k 1/5W J	B1	
R429	3069821970	Carbon Film 820 1/5W J	B1	
R430	3069102970	Carbon Film 1k 1/5W J	B1	
R431	3069220970	Carbon Film 22 1/5W J	A1	
R432L/R	3069392970	Carbon Film 3.9k 1/5W J	C1	
R433	3069472970	Carbon Film 4.7k 1/5W J	B2	
R501L/R	3069562970	Carbon Film 5.6k 1/5W J	B3	
R502	3069333970	Carbon Film 33k 1/5W J	A4	
R503	3069333970	Carbon Film 33k 1/5W J	A4	
R504	3069100970	Carbon Film 10 1/5W J	A4	
• Transistors				
Q101L/R	2208622106	NPN DTC 114YS	E4/E4	
Q102L/R	2208622106	NPN DTC 114YS	E3/E3	
Q103L/R	2008609101	MPS A05	D4/D4	
Q104L/R	2008609101	MPS A05	D4/D4	
Q105L/R	2008610102	2SA 1302S	D4/D4	
	2038406101	KTC2878, (or can use)	D4/D4	
Q106L/R	2008610102	2SA 1302S	D3/D3	
	2038406101	KTC2878, (or can use)	D3/D3	
Q107L/R	2208622106	NPN DTC 114YS	D3/D3	
Q201L/R	2208606104	KTC 1815Y	E1/E2	
Q301L/R	2208606104	KTC 1815Y	D1/D2	
Q302L/R	2208622106	NPN DTC 114YS	D1/D1	
Q303L/R	2208622106	NPN DTC 114YS	C2	
Q304L/R	2208622106	NPN DTC 114YS	C1	
Q305L/R	2208622106	NPN DTC 114YS	B1/C2	
Q306L/R	2208622106	NPN DTC 114YS	C1/C2	
Q401	2208622106	NPN DTC 114YS	C3	
Q402	2008209101	MPS A55	C3	
Q403	2208622106	NPN DTC 114YS	B3	
Q404	2208622106	NPN DTC 114YS	A3	
Q405	2208622106	NPN DTC 114YS	A3	
Q406	2208622106	NPN DTC 114YS	B2	
Q407	2208622106	NPN DTC 114YS	B2	
Q408	2208622108	NPN DTC 114YS	B2	
Q409	2208606104	KTC 1815Y	B2	
Q410	2208606104	KTC 1815Y	B1	
Q411	2208622108	DTC 114TS	B1	
Q412	2208206105	KTA 1015Y	B1	
Q413L/R	2008610102	2SD 1302S	C1	
	2038406101	KTC2878, (or can use)	C1	
Q414	2028406121	KTD 1406	A3	
Q501	2008609101	MPS A05	A4	
Q502	2008609101	MPS A05	A4	
• Variable Resistors				
VR101L/R	3248322320	Semi 22k(B)	E3	
VR102L/R	3248322320	Semi 22k(B)	D2	

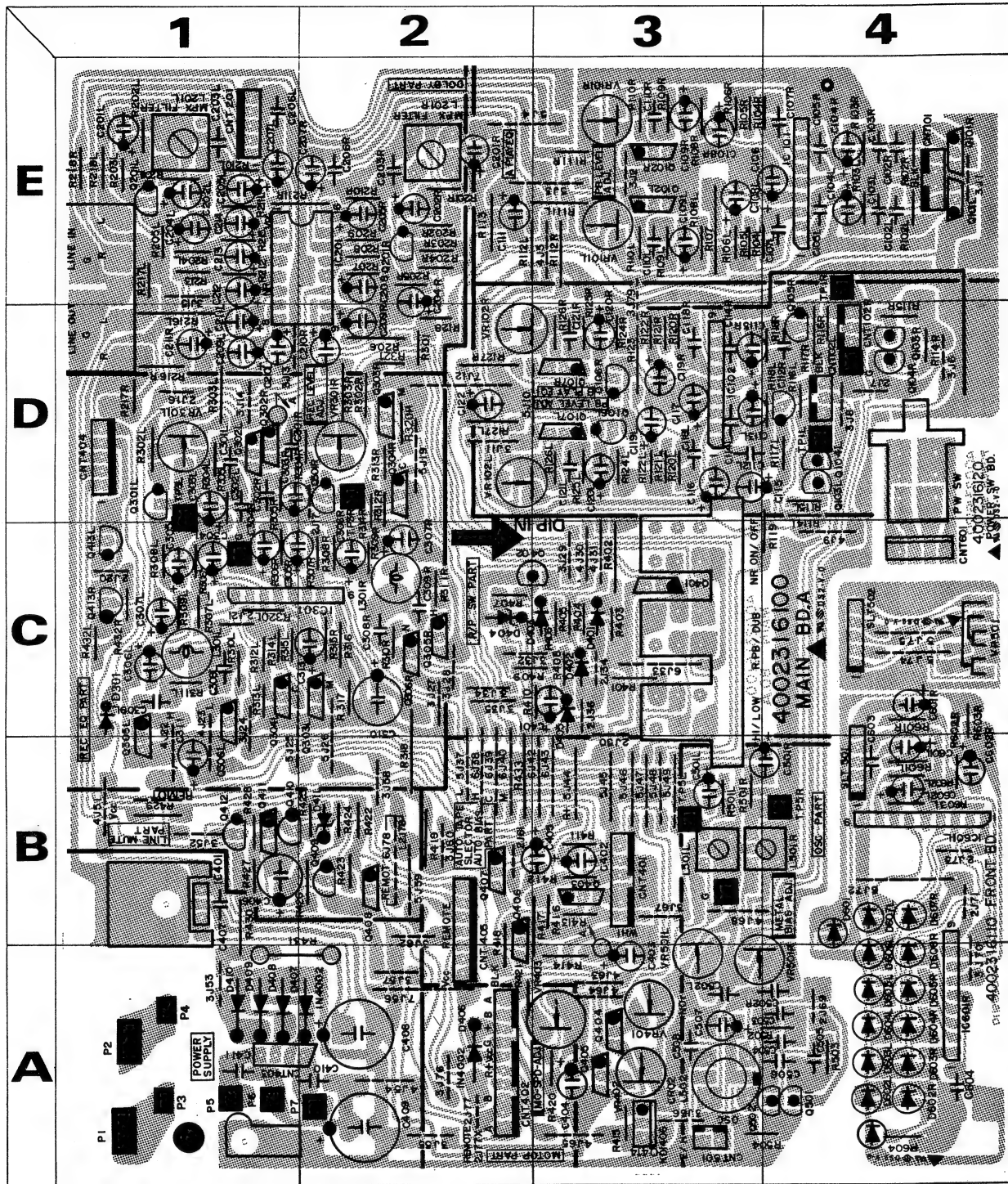
Ref. No.	Part No.	Description	Position	Remark
VR301L/R	3248310320	Semi 10k(B)	D1/D2	
VR401	3248310320	Semi 22k(B)	A3	
VR402	3248310320	Semi 22k(B)	A3	
VR403	3248310320	Semi 2.2k(B)	A3	
VR501L/R	3248322420	Semi 220k(B)	A3	
• Miscellaneous Parts				
P1 - P2	4225001410	Solder Terminal		
P3 - P7	4225000315	Pin Wrapping		
TP1L/R	4225000315	Pin Wrapping		
	4855000111	Pipe-Ceramic,White		W/R431

Ref. No.	Part No.	Description	Position	Remark
FRONT BOARD 4002316110				
• Capacitors				
C601L/R	3479247971	Electric SA 4.7 μ F 50V M		
C602L/R	3479210061	Electric SA 10 μ F 35V M		
C603	3579104534	Ceramic 0.1 μ F 50V J		
C604	3579104534	Ceramic 0.1 μ F 50V J		
• LEDs				
D601	2308220130	SLV 56URC3		
D602L/R	2308221105	SLR 34DC3		
D603L/R	2308221105	SLR 34DC3		
D604L/R	2308221105	SLR 34DC3		
D605L/R	2308221105	SLR 34DC3		
D606L/R	2308220127	SLR 34URC7		
D607L/R	2308220123	SLR 34URC7		
• ICs				
IC601L/R	2168022114	BA6124, LCD Driver		
• Resistors				
R601L/R	3069393970	Carbon Film 39k 1/5W J		
R602L/R	3069183970	Carbon Film 18k 1/5W J		
R603L/R	3069103970	Carbon Film 10k 1/5W J		
R604	3069561970	Carbon Film 560 1/5W J		
• Miscellaneous Parts				
SLT501	4119105266	Slat Wire 5P, 260mm		
SLT502	4119105266	Slat Wire 5P, 260mm		
CNT601	4355029540	Connector Ass'y 4P 350mm		
CNT601	2828042007	Power Transformer		A
CNT601	2828045801	Power Transformer		B
CNT601	2828045201	Power Transformer		C,D,F
CNT601	2828048201	Power Transformer		E

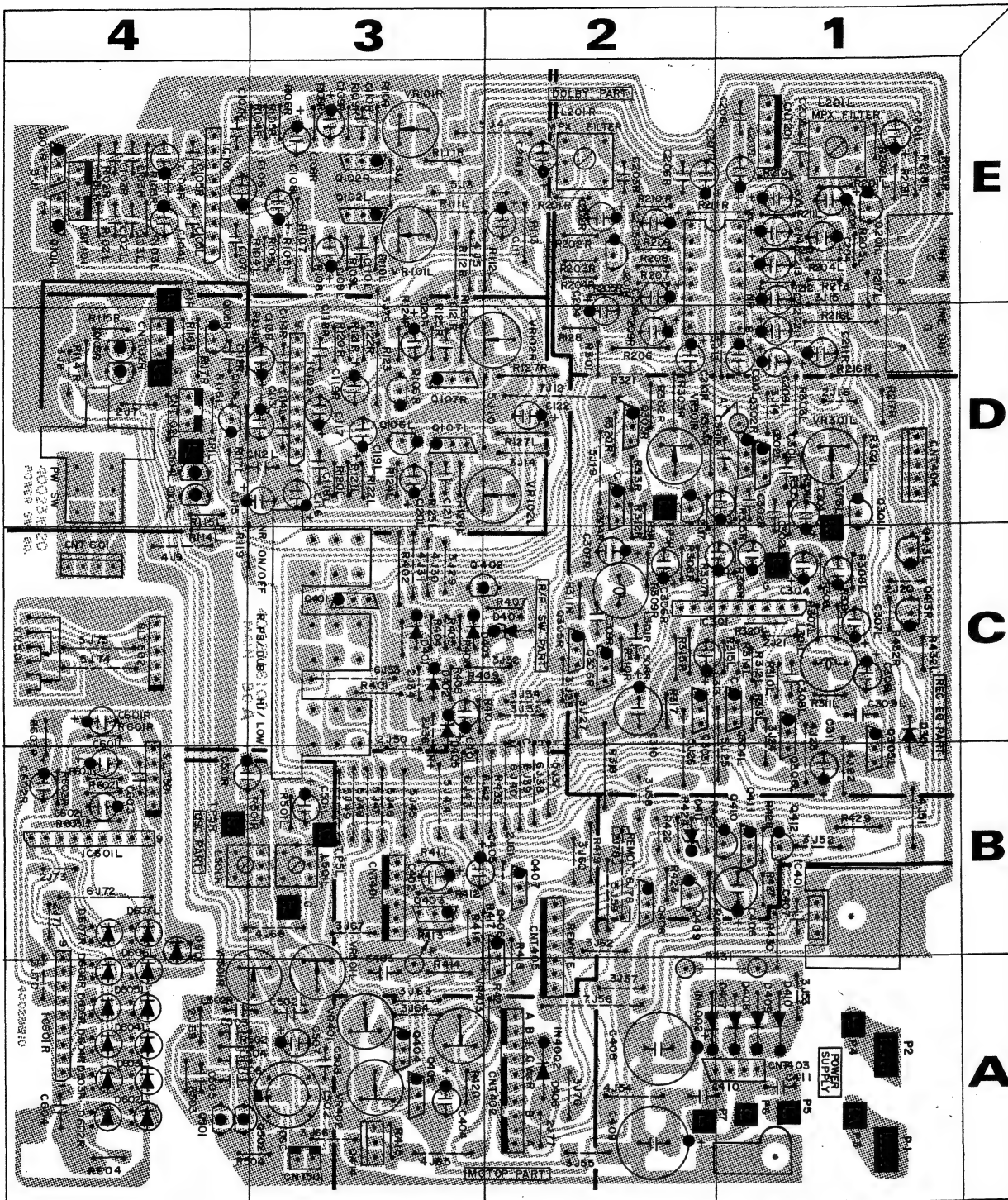
Top & Bottom View of P.C Boards

MAIN BOARD 4002316100, FRONT BOARD 4002316110, POWER BOARD 4002316120

— TOP VIEW



- BOTTOM VIEW

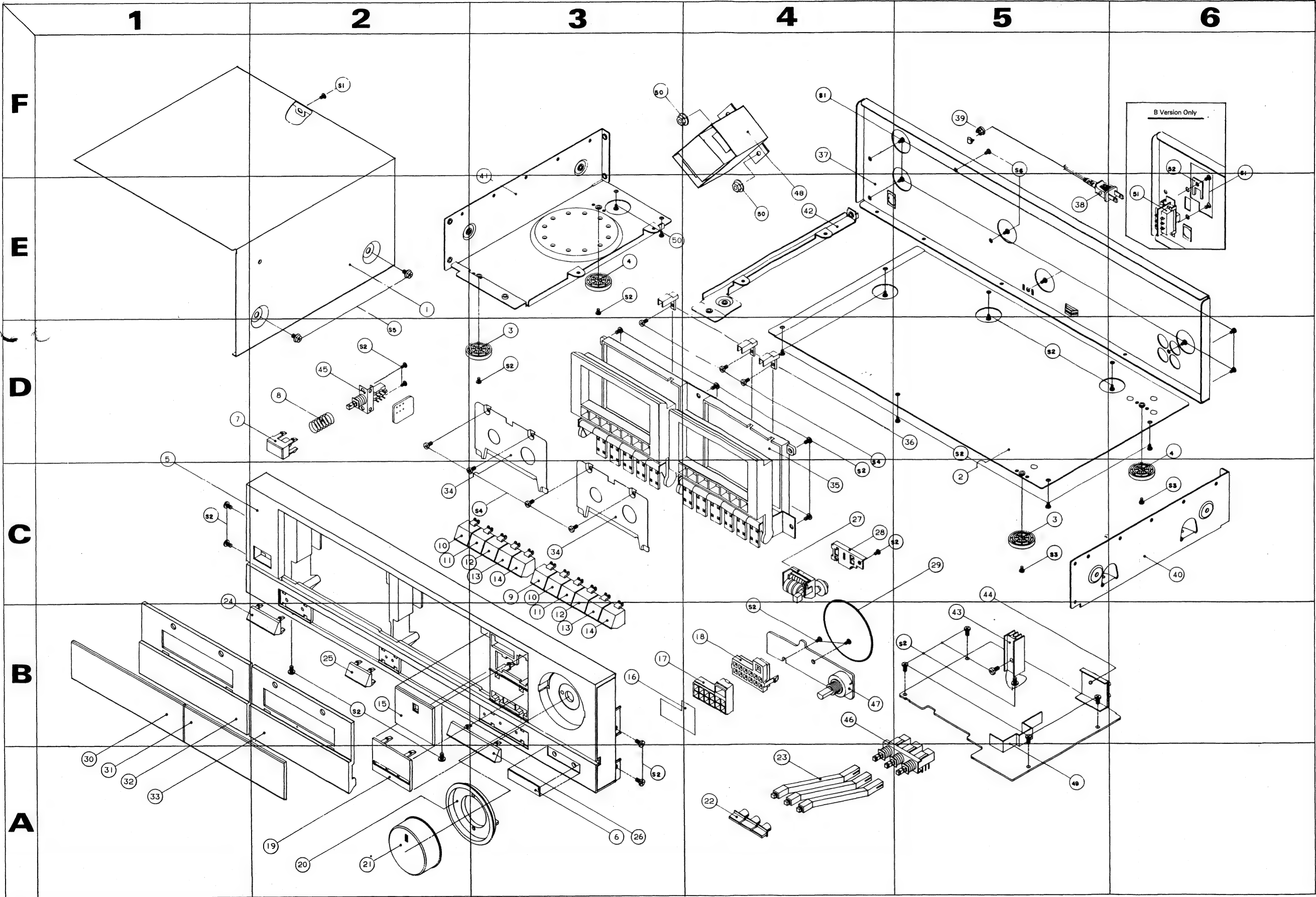


Mechanical Parts List

No.	Parts No.	Description	Position	Q'ty	Remark
1	046122015711	Cover Top	E2	1	
2	6122414010	Cover Bottom	C5	1	
3	046035101511	Base Foot W/Cushion,Gold	E3,D3	4	
4	6035101510	Base Foot W/Cushion,Black	E3,D3	4	
5	048501012211	Front Panel	D1	1	
6	048535019011	Name Badge	A3	1	
7	048545048211	Button Power	D1	1	
8	6555004380	Spring	D2	1	
9	048543013611	Button Deck (REC)	C3	1	
10	048543013612	Button Deck (PLAY)	C2,C3	2	
11	048543013613	Button Deck (REW)	C2,B3	2	
12	048543013614	Button Deck (FF)	C2,B3	2	
13	048543013615	Button Deck (STOP/EJ)	B3,C3	2	
14	048543013616	Button Deck (PAUSE)	B3,C3	2	
15	04855019312	LED Window	B2	1	
16	8535023910	Diffuser	B3	1	
17	046042001711	LED Guide	B3	1	
18	6042001810	LED Holder	B4	1	
19	048585005311	Decoration Cover	A2	1	
20	8523009220	Decoration Ring	A2	1	
21	8543013710	Knob Rotary	A2	1	
22	8545048310	Button Push (1 key)	A4	3	
23	6305004710	Button Shaft	A4	3	
24	048543019211	Button Cap (B)	C1	1	
25	048543019311	Button Cap (C)	B2	1	
26	048543019111	Button Cap (A)	A3	1	
27	5318001410	Tape Counter	E4	1	
28	6505080510	Bracket Counter	C5	1	
29	7165000610	Belt Counter	C5	1	
30	048553007611	Door Window (A)	A1	1	
31	048553007711	Door Window (B)	A1	1	
32	048563002911	Door Deck (A)	A1	1	
33	048563003011	Door Deck (B)	A1	1	
34	048685003722	Cover Mecha.	C3,C2	2	
35	5708007810	Deck Mecha.YMW47C-402	C4	1	
36	4648500610	Leaf Switch	D5	3	
37	046102025021	Chassis-Back	F4	1	A
	046102025031	Chassis-Back	F4	1	B
	046102025041	Chassis-Back	F4	1	C
	046102025051	Chassis-Back	F4	1	D
	046102025061	Chassis-Back	F4	1	E
	046102025071	Chassis-Back	F4	1	F
38	4308003910	Cord-AC, Power	E5	1	A, B
	4308000430	Cord-AC, Power	E5	1	C, D, F
	4308003610	Cord-AC, Power	E5	1	E
39	6518000111	Stopper Cord	F5	1	
40	6123618310	Frame Side (R)	C6	1	
41	6122614810	Frame Side (L)	E3	1	
42	6503013210	Bracket PCB	E4	1	
43	7505200710	Heatsink REG TR	B5	1	
44	4438100410	Jack RCA (4P)	C5	1	
45	4628034310	Switch Power	D2	1	
46	4628053510	Switch Push (3 key)	B4	1	
47	3208045110	VR Rotary (50kA×2)	B4	1	
48	2828042007	Transformer Power	E4	1	
49	6165131210	Shield Fence	A5	1	
50	8209540011	Nut Flange M4Y	F3, E4	2	
51	4618000410	Voltage Selector Switch	E6	1	B
52	6515000630	Holder Voltage	E6	1	B
S1	8119230063	Screw #2 PTC 3×6ZNB	F2	8	
S2	8109230081	Screw #2 BTC 3×8ZNY	E4, D2/5, B5 C1/4/5, B2, A4, A3, B3	32	
S3	8159230081	Screw #2 WPTC 3×8ZNY	C5/6, E3	4	

No.	Parts No.	Description	Position	Q'ty	Remark
S4	8119126061	Screw #1 PTC 2.6×6ZNB	C3, C4	7	
S5	8159440083	Screw WSAM 4×8ZNB	E2	4	
S6	8159430081	Screw WSAM 4×8ZNY	F5	2	

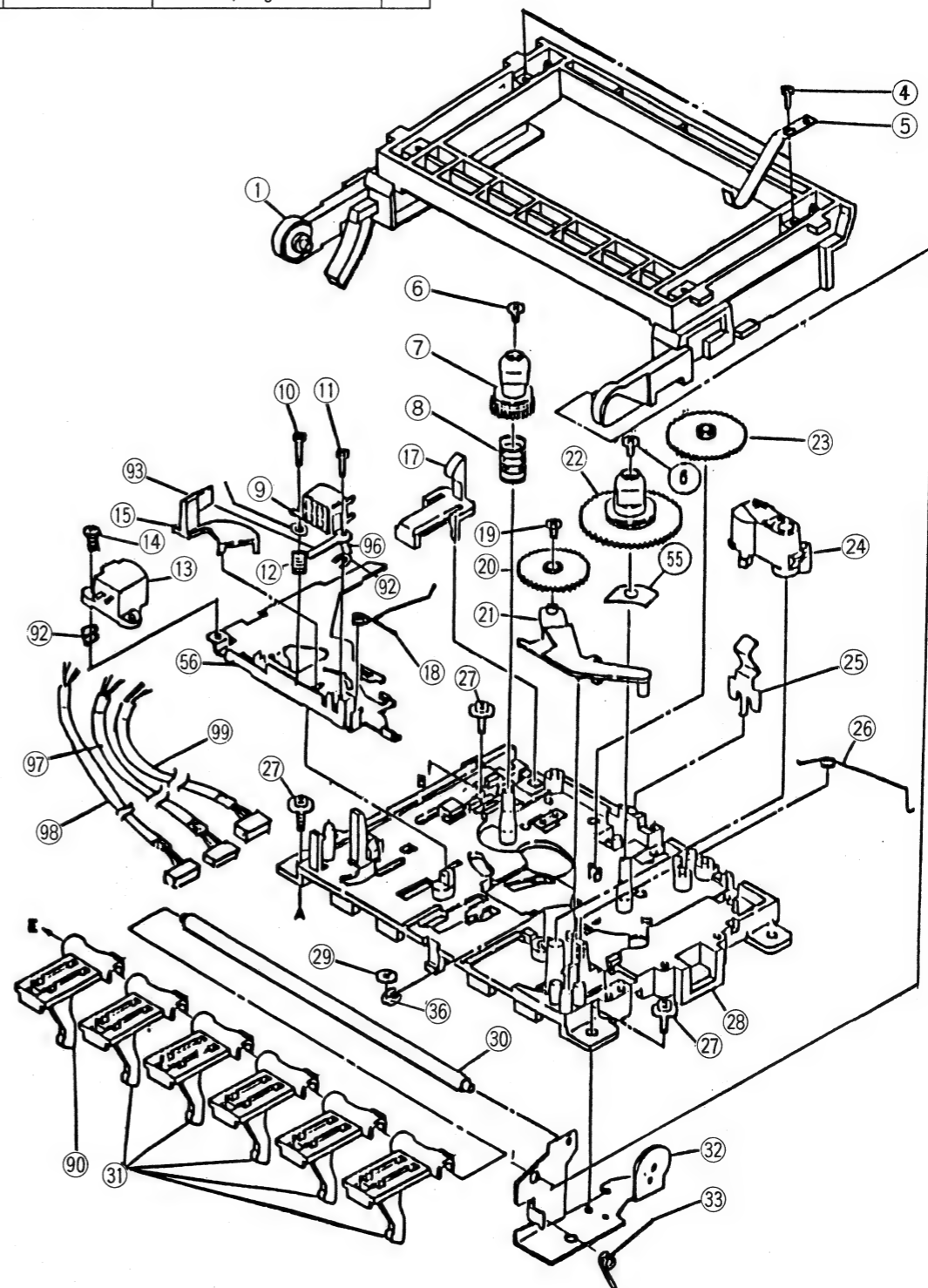
Exploded View of Cabinet & Chassis



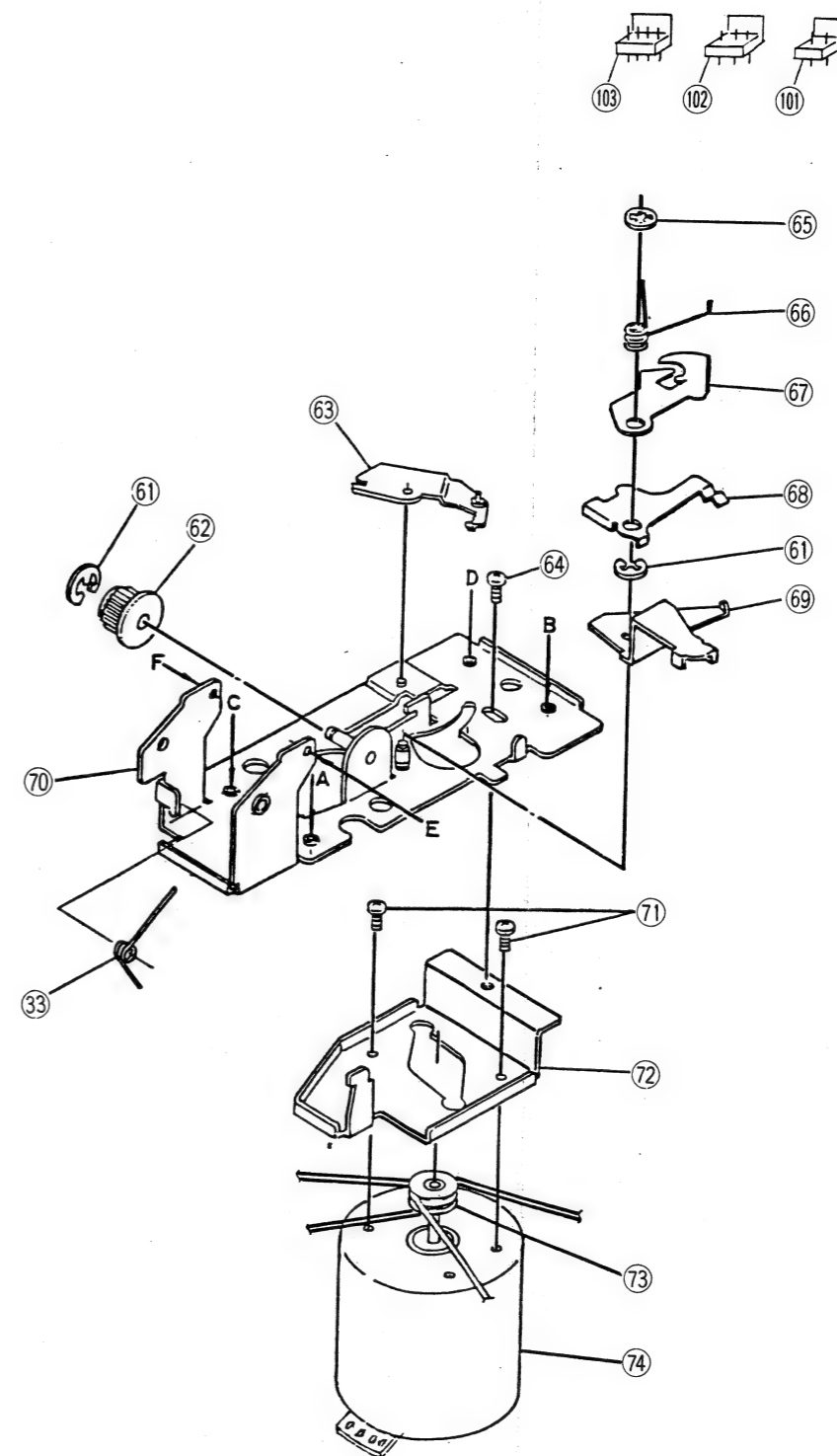
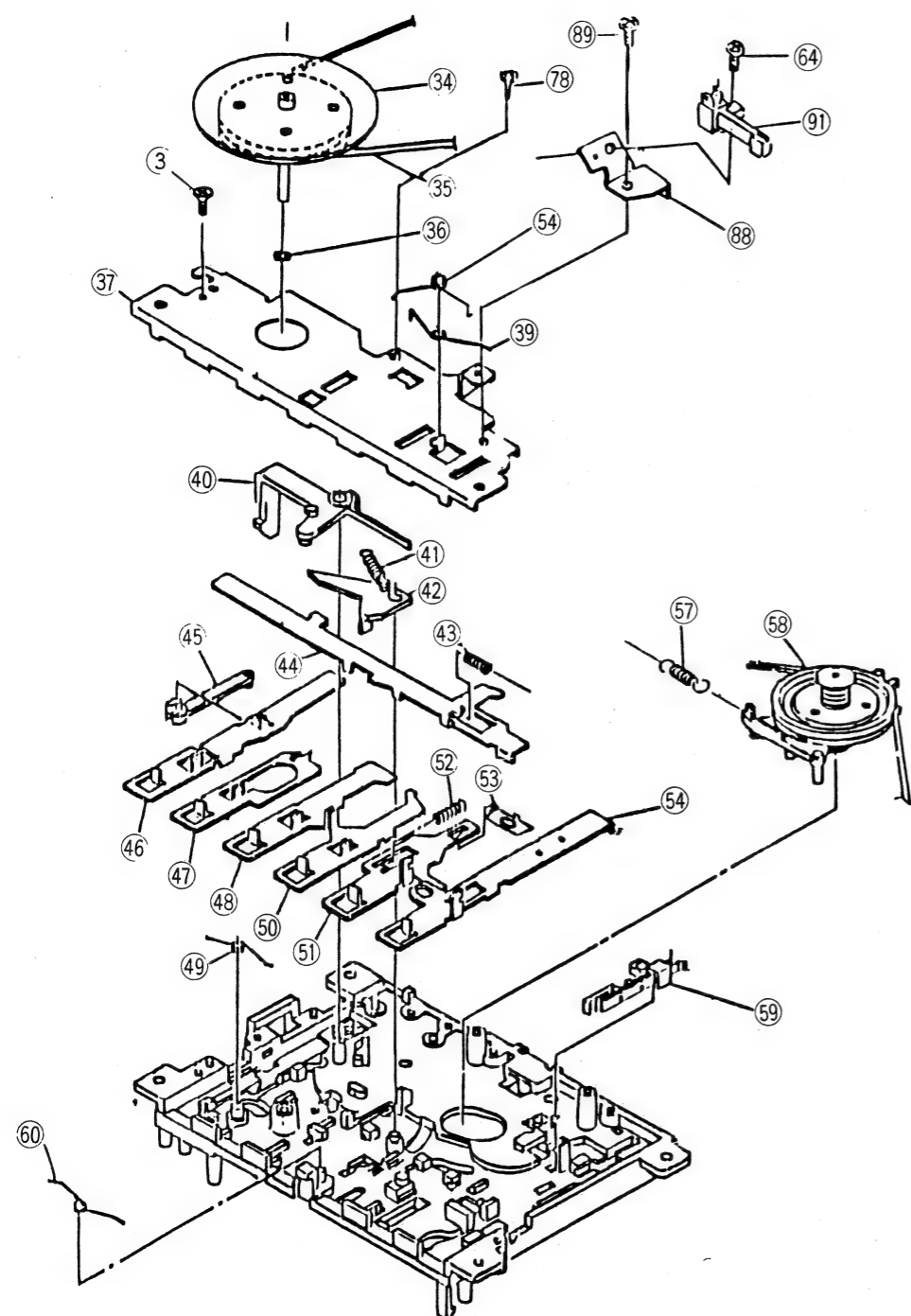
Part List & Exploded View of Deck Mechanism (I)

No.	Parts No.	Description		Q'ty	No.	Parts No.	Description		Q'ty
		Parts Code	Parts Name				Parts Code	Parts Name	
1	5708906500	PBC 1280K	Cassette Case	2	50	5708906760	PBE 17072	REW Lever	2
2	.	.	Not used!	.	51	5708902130	PBE 16686	Play Lever	2
3	5708906510	PGSL 30A2608K	L.Screw	2	52	5708906770	PBE 6865	H/D Base Spring	2
4	5708906520	PGST20A2005K	T.Screw	4	53	5708902150	PBE 17083	REC Stop Lever	1
5	5708901650	PBE 14715	Keep Plate	4	54	5708902160	PBE 16676	REC Lever	1
6	5708901660	PBE 17014	Bush B	4	55	5708906780	PBE 17137	T.Spring	2
7	5708901670	PBE 16646	S.Reel	2	56	5708906790	PBC 1257	Head Base B	1
8	5708901680	PBE 6602	C.Spring	2	57	5708906800	PBE 6689	Power Arm Spring	1
9	5708906530	MS15RBA2N1K	R/P Head	2	58	5708906810	PBD 0942	Power Arm	2
10	5708906540	PGSN10A2008K	N.Screw	2	58-1	5708906811	PBE 17170	Felt	2
11	5708906550	PGSP10A2003K	P.Screw	2	58-2	5708906812	PBE 17096	Pully	2
12	5708901720	PBE 6604	Azimuth C Spring	2	58-3	5708906813	PBE 17101	Felt Pully	2
13	5708906560	LE15AC1K	E.Head	1	58-4	5708906814	PBE 17098	Shaft	2
14	5708906570	PGSD20A2006K	D.Screw	1	58-5	5708906815	PBE 17094	Stopper	2
15	5708901750	PBE 16647	Tape Sensor	2	58-6	5708906816	PBE 6679(B)	Spring	2
16	.	.	Not used!	.	58-7	5708906817	PGWP75×110013	P.Washer	2
17	5708901770	PBE 16643	Interlock arm	1	58-8	5708906818	PBD 1887	Power Arm	2
18	5708901780	PBE 6911	Pinch Spring	2	58-9	5708906819	PBE 17095	Gear	2
19	5708901790	PBE 14927	Bush	2	59	5708902210	MSW 1342NCV	Main Switch	2
20	5708901800	PBE 16641	Idler Gear	2	60	5708902220	PBE 6607	Pause S/E Spring	2
21	5708901810	PBD 1874	Idler Arm	2	61	5708902230	PGRE30A	E.Spring	3
22	5708901820	PBE 03163	T. Reel Ass'y	2	62	5708902240	PBE 15524	Gear	3
22-1	5708906580	PBE 16627	T. Reel Stand	2	63	5708902250	PBE 03265	P Connect Plate Lever Ass'y	1
22-2	5708906590	PBE 17752	Felt	2	63-1	5708902251	PBE 17067	P Connect Lever	1
22-3	5708906600	PBE 17263	T. Reel	2	63-2	5708902252	PBE 17077	Shaft A	1
22-4	5708906610	PBE 6606	Spring	2	64	5708902260	PGSD10A2605	D.Screw	2
22-5	5708906620	PBE 17551	T. Reel Gear	2	65	5708902270	PGRS30P	CS Spring	1
23	5708901830	PBE 16640	F.Gear	2	66	5708902280	PBE 6688	Connect Spring	1
24	5708906630	PBE 03560	Pinch Arm Ass'y	2	67	5708902290	PBE 17066	Lock Plate	1
24-1	5708901841	PBD 10653	Pinch Arm	2	68	5708902300	PBE 17068	Unlock Plate	1
24-2	5708906640	PBE 17174	Pinch Roller	2	69	5708902310	PBD 10556	Connect Lever	1
24-3	5708901843	PBE 17256	Roller Shaft	2	70	5708906820	PBE 03646	Connect Plate A Ass'y	1
25	5708901850	PBE 17000	Cassette Spring	2	70-1	5708906821	PBD 10557K	Connect Plate A	1
26	5708901860	PBE 6610	Earth Spring	2	70-2	5708902340	PBE 17078	Shaft.B	1
27	5708906650	PGSD15A2606K	D.Screw	6	70-3	5708902350	PBE 17658	Damper Shaft	1
28	5708906660	PBD 01085	Chassis Ass'y	2	71	5708906830	PGSP11A2604K	P.Screw	2
28-1	5708906670	PBB 1146K	Base	2	72	5708906840	PBE 17073K	Motor Bracket	1
28-2	5708901900	PBE 17296	Capstern Metal	4	73	5708906850	PBE 17705	Motor Pully,W	1
29	5708901910	PGWN16X060040S	N.Washer	2	74	5708906860	EG30YD2BK	Motor	1
30	5708906680	PBE 17107K	Button Shaft	2	75	5708906870	PBE 5277	Belt	1
31	5708901930	PBE 2966	Button Lever	10	76	5708902410	PBE 17070	Pause Lever.W	1
32	5708906690	PBE 17076K	Button Bracket.R	1	77	.	.	Not used !	.
33	5708901950	PBE 6690	Spring	2	78	5708902530	PBE 17112	Bush C	2
34	5708906700	PBE 03600	Fly Wheel Ass'y	2	79	5708902440	PBE 5239	Belt	1
34-1	5708906710	PBE 17099K	Fly Wheel Ring	4	80	5708902450	PBC 1236	Head Base	1
34-2	5708901963	PBE 17100	Capstern Shaft	2	81	5708902460	PBE 16624	Tape Guide	1
34-3	5708901961	PBD 10567	Fly Wheel W	2	82	5708906880	PBE 03635	Button Bracket L Ass'y	1
34-4	5708906720	PGSL16A2608K	L.Washer	4	82-1	5708906881	PBE 17075K	Button Bracket L	1
35	5708906730	PBE 5276	Belt	1	82-2	5708902472	PBE 17658	Damper Shaft	1
36	5708901980	PGWP21X040013	P.Washer	3	83	5708902480	PBE 17140	Spacer	1
37	5708901990	PBD 1872	Back Plate	2	84	5708902490	PBE 6847	Spring	1
38	5708902000	PBE 6687	Spring	1	85	.	.	Not used !	.
39	5708902010	PBE 6618	Spring	1	86	.	.	Not used !	.
40	5708902020	PBE 16644	Eject Lever	2	87	5708902520	PGWF22A050020	F.Washer	2
41	5708902030	PBE 6831	Auto Stop Spring	2	88	5708906890	PBE 17300	Switch Plate	1
42	5708902040	PBE 16619	S.Arm	2	89	5708906900	PGSD10A2004K	D.Screw	1
43	5708906740	PBE 6617	Function Spring	2	90	5708902540	PBE 2969	Button Lever.R	1
44	5708902060	PBD 1873	Function Lever	2	91	5708902210	LSA 1119P	Leaf Switch	1
45	5708902070	PBE 16625	Pause Arm	1	92	5708906910	PBE 17501	Spacer	3
46	5708902080	PBE 16681	Pause Lever	2	93	5708902620	PBE 3084	Lug Plate	2
47	5708902090	PBE 16680	S/E Lever	2	94	.	.	Not used !	.
48	5708902100	PBE 17071	FF Lever W	2	95	.	.	Not used !	.
49	5708906750	PBE 6614	FF/REW Lever W	2	96	5708906920	PBE 14710	Lug Plate	1

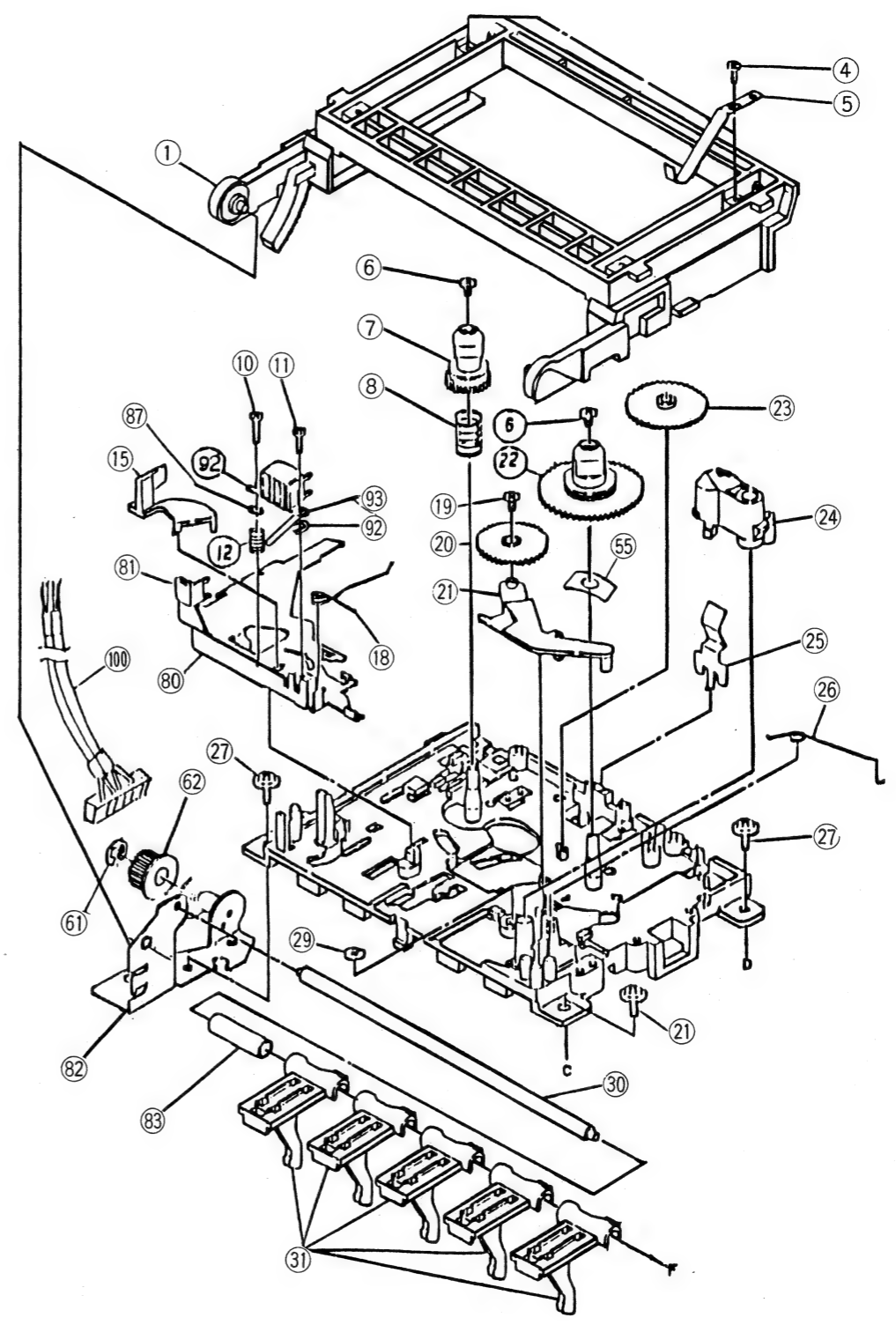
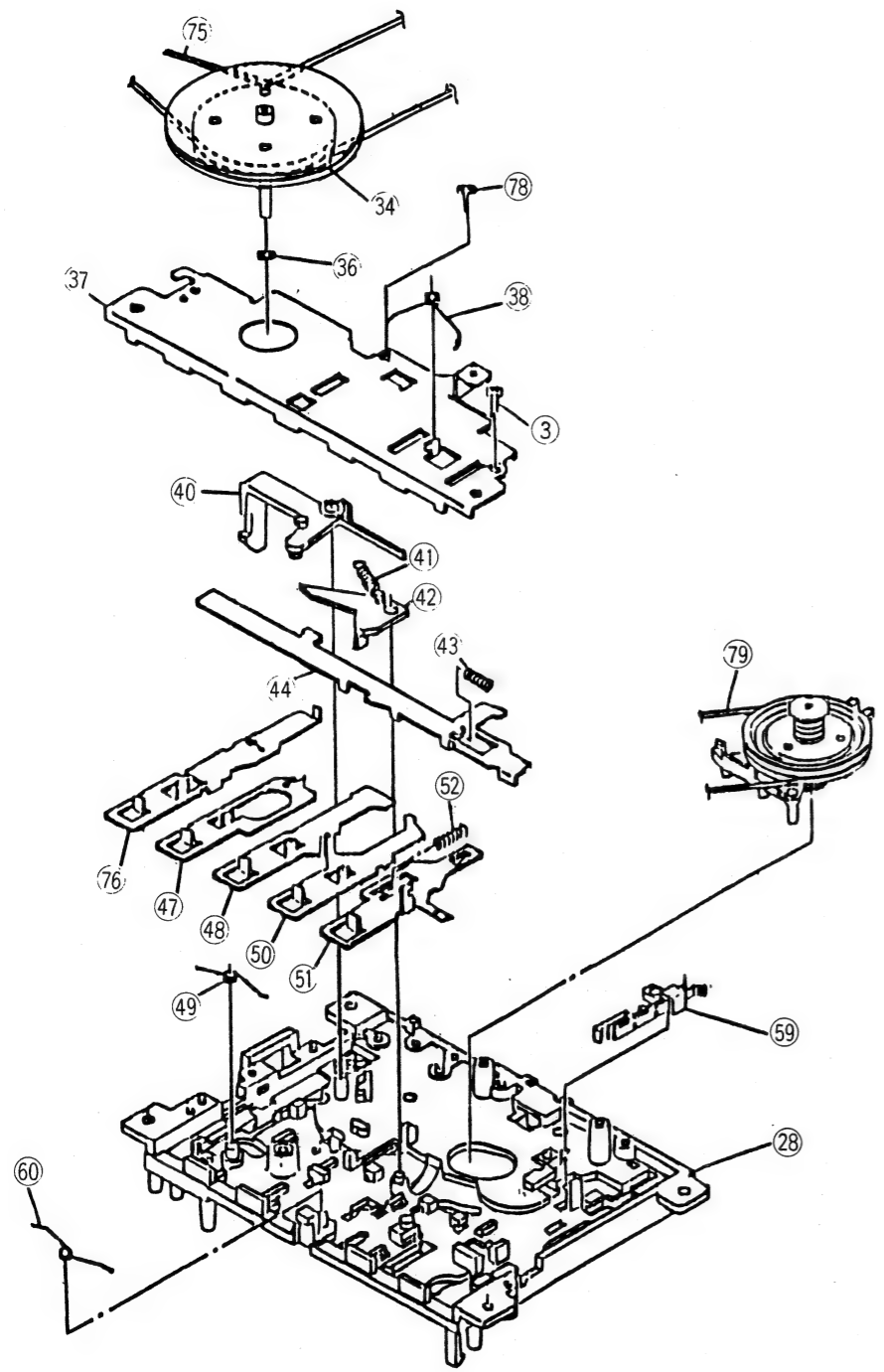
No.	Parts No.	Description		Q'ty
		Parts Code	Parts Name	
97	4358502260	.	Connector, Ass'y 2P	1
98	4358503260	.	Connector, Ass'y 3P	1
99	4358503261	.	Connector, Ass'y 3P	1
100	4358504401	.	Connector, Ass'y 4P	1
101	4428517510	.	Connector, Plug 2P	1
102	4428517610	.	Connector, Plug 3P	2
103	4428517710	.	Connector, Plug 4P	1



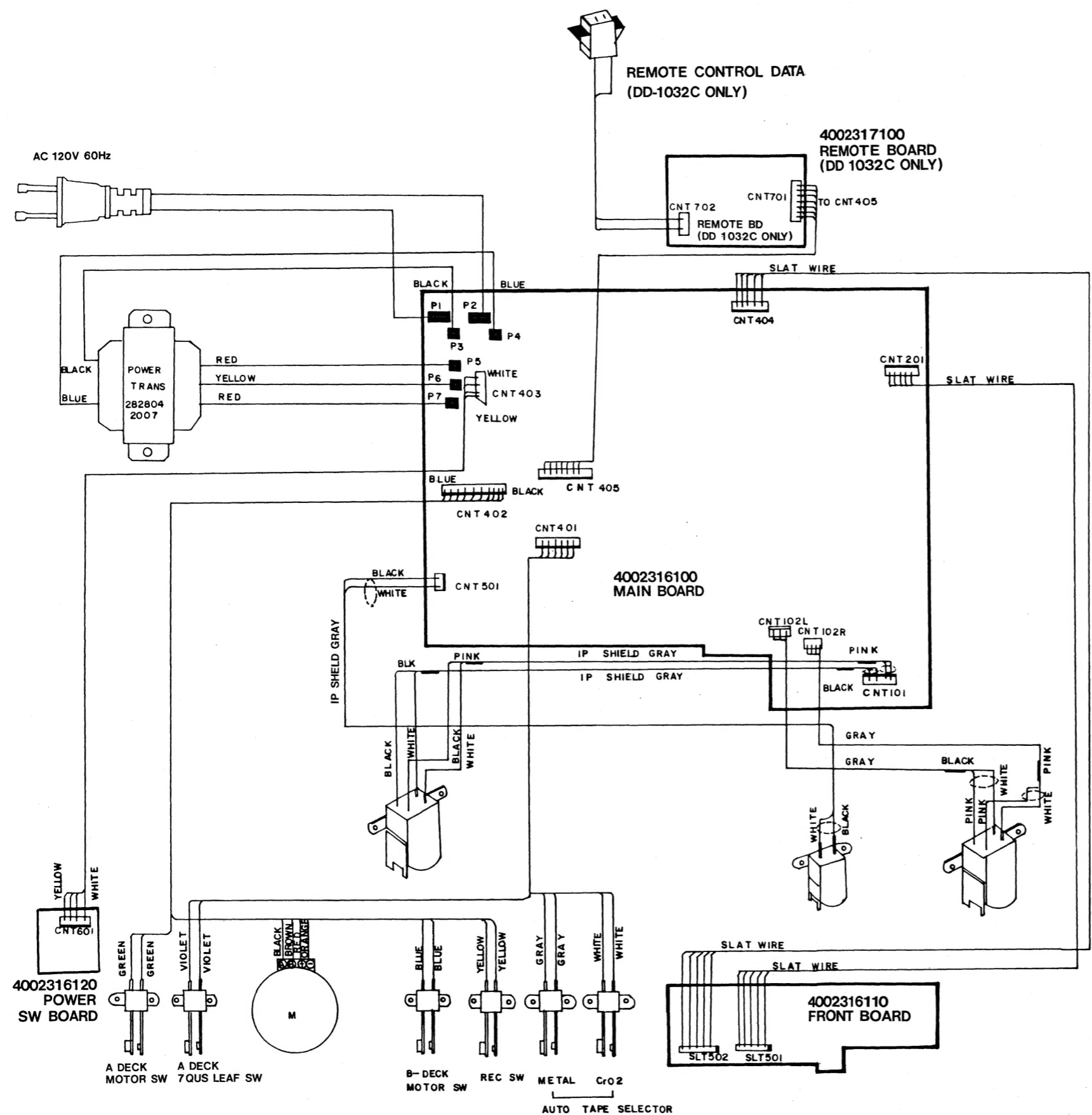
Exploded View of Deck Mechanism (II)



Exploded View of Deck Mechanism (III)



Point to Point Wiring Diagram

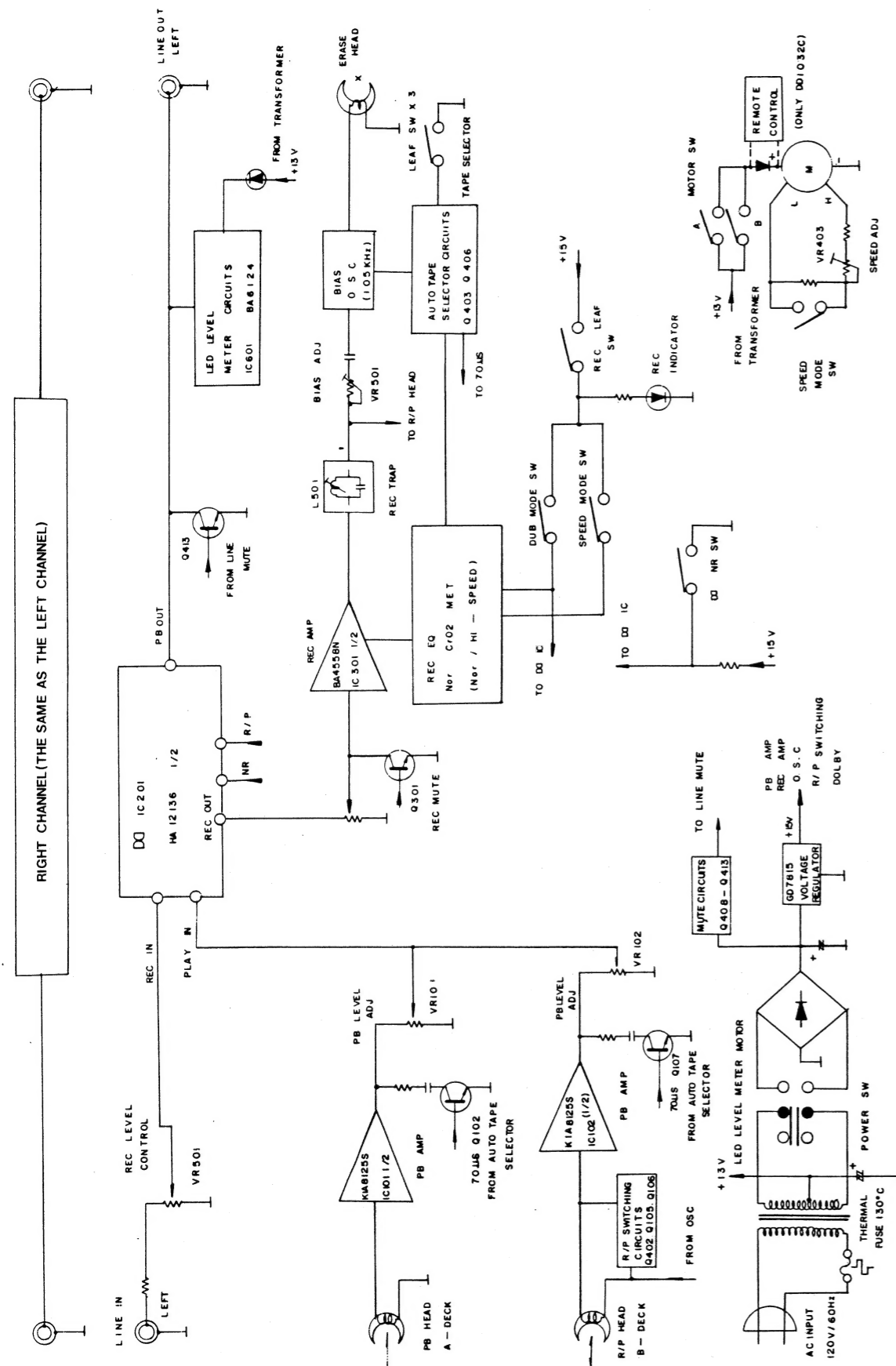


VERSION	CONNECTION OF PRIMARY
B	<p>PART NO: 2828045801</p>
C, D, F	<p>PART NO 2828045201</p>
E	<p>PART NO 2828048201</p>
K S	<p>PART NO 2828040603</p>

VERSION	POWER TRANSFORMER	
	PART NO	REMARK
A	2828042007	AC120V 60Hz
C, D, F	2828045801	AC120V/220V 50Hz
E	2828045201	AC240V 50Hz
K, S	2828040603	AC100V/220V 60Hz

VERSION	FUSES	
	PART NO	REMARK
K, S	5508211630	0.5A/250V
	5508211130	0.2A/250V

Block Diagram



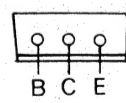
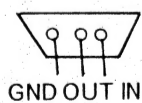
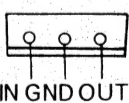
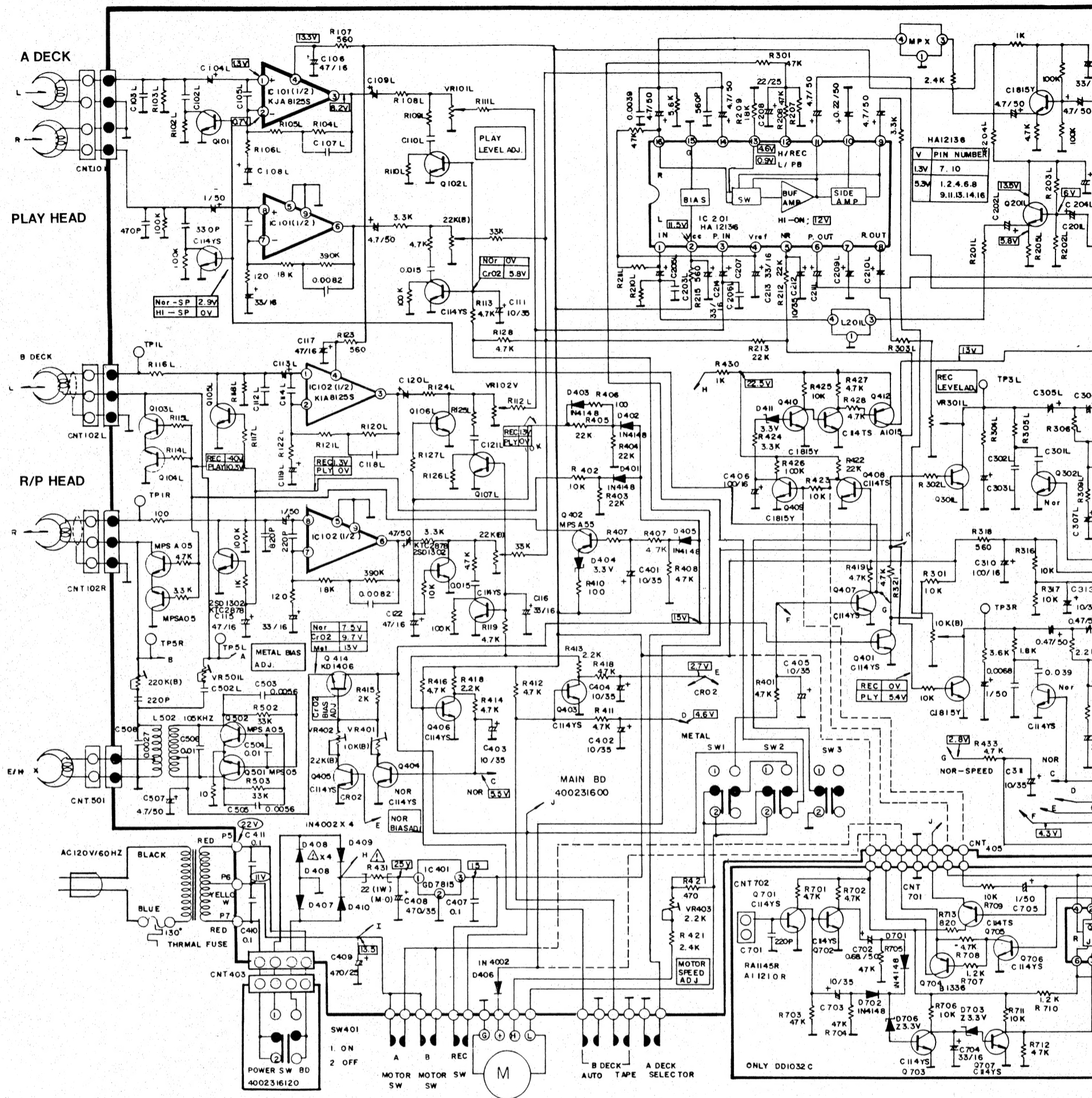
A

B

C

D

Schematic Diagram DD-1030



KTC1815Y
KTA1015Y
2SD1302S
KTC2878

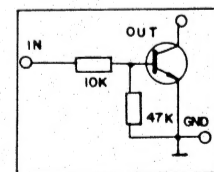
MPS A05
MPS A55

GD 7815

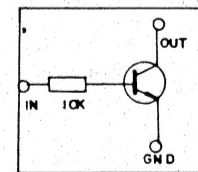
DTC 114YS
DTC 114TS

D1406
B1336

BOTTOM VIEW



DTC 114 YS



DTC 114 TS

A

B

C

D

